

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS

1. (Currently Amended) A composition comprising:
 - a) a first fusion polypeptide comprising:
 - i) a first domain comprising a protein transduction ~~moiety~~ domain, the protein transduction domain moiety comprising a membrane transport function providing for intracellular delivery of the first fusion polypeptide; and
 - ii) a second domain comprising a heterologous polypeptide;
 - b) a second fusion polypeptide comprising:
 - i) a first domain comprising a protein transduction ~~moiety~~ domain, the protein transduction domain moiety comprising a membrane transport function providing for intracellular delivery of the second fusion polypeptide; and
 - ii) a second domain comprising a fusogenic polypeptide.
2. (Currently Amended) The composition of claim 1, wherein the protein transduction ~~moiety~~ domain is selected from the group consisting of a polypeptide comprising a herpesviral VP22 protein; a polypeptide comprising a human immunodeficiency virus (HIV) TAT protein; a polypeptide comprising a homeodomain of an Antennapedia protein (Antp HD), and functional fragments thereof.
3. (Currently Amended) The composition of claim 2, wherein a TAT protein functional fragment comprises SEQ ID NO:[[I]] 1 from amino acid 47-57.

4. (Original) The composition of claim 1, wherein the heterologous polypeptide is a therapeutic or diagnostic polypeptide.
5. (Withdrawn) The composition of claim 4, wherein the diagnostic polypeptide is an imaging agent.
6. (Original) The composition of claim 4, wherein the therapeutic polypeptide modulates cell proliferation.
7. (Withdrawn) The composition of claim 6, wherein the modulation inhibits cell proliferation.
8. (Withdrawn) The composition of claim 7, wherein the therapeutic agent is a suicide inhibitor or a tumor suppressor protein.
9. (Withdrawn) The composition of claim 8, wherein the suicide inhibitor is thymidine kinase.
10. (Withdrawn) The composition of claim 8, wherein the tumor suppressor protein is p53.
11. (Original) The composition of claim 6, wherein the modulation increases cell proliferation.

12. (Original) The composition of claim 11, wherein the therapeutic agent is selected from the group consisting of SV40 small T antigen, SV40 large T antigen, adenovirus E1A, papilloma virus E6, papilloma virus E7, Epstein-Barr virus, Epstein-Barr nuclear antigen-2, human T-cell leukemia virus-1 (HTLV-1), HTLV-1 tax, herpesvirus saimiri, mutant p53, myc, c-jun, c-ras, c-Ha-ras, h-ras, v-src, c-fgr, myb, c-myc, n-myc, v-myc, and Mdm2.

13. (Currently Amended) The composition of claim 1, wherein the fusogenic polypeptide is selected from the group consisting of the M2 protein of influenza A viruses; peptide analogs of the influenza virus hemagglutinin; the HEF protein of the influenza C virus; the transmembrane glycoprotein of filoviruses; the transmembrane glycoprotein of the rabies virus; the transmembrane glycoprotein (G) of the vesicular stomatitis virus; the amino-terminal 33 amino acids of the F1 component of the fusion polypeptide of the Sendai virus; the E1 component of the transmembrane glycoprotein of the Semliki forest virus; the gp37 component of the fusion polypeptide of the human respiratory syncytial virus (RSV); the fusion polypeptide of the measles virus; the fusion polypeptide of the Newcastle disease virus; the fusion polypeptide of the visna virus; the p15E component of the fusion polypeptide of murine leukemia virus; the gp21 component of the fusion polypeptide of the HTLV virus; and the fusion polypeptide of the simian immunodeficiency virus (SIV), wherein the fusogenic polypeptide causes destabilization of a cell membrane.

14. (Original) The composition of claim 1, wherein the fusogenic polypeptide comprises a sequence selected from SEQ ID NO:2 and SEQ ID NO:3.

15. (Original) A pharmaceutical or diagnostic composition comprising the composition of claim 1.

16. (Currently Amended) A kit comprising a vessel or vessels compartmentalized to receive the composition of claim 1 ~~containing a) a first fusion polypeptide comprising: i) a first domain comprising a protein transduction moiety, the transduction moiety comprising a membrane transport function; and ii) a second domain comprising a heterologous polypeptide; and b) a second fusion polypeptide comprising: i) a first domain comprising a protein transduction moiety, the transduction moiety comprising a membrane transport function; and ii) a second domain comprising a fusogenic polypeptide.~~

17. (Canceled)

18. (Original) An article of manufacture comprising, packaged together: a) a vessel containing the composition of claim 1; and b) instructions for use of the composition in a therapeutic or diagnostic method.

19. (Canceled)

20. (Canceled)

21. (Withdrawn) A method of introducing a heterologous polypeptide into a target cell, the method comprising contacting the cell with a composition comprising: a) a

first polypeptide comprising at least one transducing domain associated with a heterologous polypeptide; and b) a second polypeptide comprising at least one transducing domain associated with a fusogenic domain, wherein the first polypeptide and second polypeptide are co-transduced in to the cell.

22. (Withdrawn) The method of claim 21, wherein the protein transducing domain is selected from the group consisting of a polypeptide comprising a herpesviral VP22 protein; a polypeptide comprising a human immunodeficiency virus (HIV) TAT protein or a functional fragment thereof; and a polypeptide comprising a homeodomain of an Antennapedia protein (Antp HD).

23. (Withdrawn) The method of claim 22, wherein a TAT protein functional fragment comprises SEQ ID NO:1 from amino acid 47-57.

24. (Withdrawn) The method of claim 21, wherein the heterologous polypeptide is a therapeutic or diagnostic polypeptide.

25. (Withdrawn) The method of claim 24, wherein the diagnostic polypeptide is an imaging agent.

26. (Withdrawn) The method of claim 24, wherein the therapeutic polypeptide is a suicide inhibitor or a tumor suppressor protein.

27. (Withdrawn) The method of claim 26, wherein the suicide inhibitor is thymidine kinase.

28. (Withdrawn) The method of claim 21, wherein the contacting is *in vivo* or *in vitro*.

29. (Withdrawn) The composition of claim 21, wherein the fusogenic polypeptide is selected from the group consisting of the M2 protein of influenza A viruses; peptide analogs of the influenza virus hemagglutinin; the HEF protein of the influenza C virus; the transmembrane glycoprotein of filoviruses; the transmembrane glycoprotein of the rabies virus; the transmembrane glycoprotein (G) of the vesicular stomatitis virus; the fusion polypeptide of the Sendai virus; the transmembrane glycoprotein of the Semliki forest virus; the fusion polypeptide of the human respiratory syncytial virus (RSV); the fusion polypeptide of the measles virus; the fusion polypeptide of the Newcastle disease virus; the fusion polypeptide of the visna virus; the fusion polypeptide of murine leukemia virus; the fusion polypeptide of the HTL virus; and the fusion polypeptide of the simian immunodeficiency virus (SIV).

30. (Canceled)

31. (Currently Amended) A fusion polypeptide ~~comprising~~ consisting of a protein transduction domain, ~~and a fusogenic domain,~~ the fusogenic domain comprising a membrane destabilization function, and a heterologous molecule, wherein the heterologous molecule is operably linked to the fusogenic domain or the protein transduction domain.

32. (Currently Amended) The fusion polypeptide of claim 31, wherein the protein transduction moiety domain is selected from the group consisting of a polypeptide comprising a herpesviral VP22 protein; a polypeptide comprising a human immunodeficiency virus (HIV) TAT protein; a polypeptide comprising a homeodomain of an Antennapedia protein (Antp HD), and functional fragments thereof.

33. (Original) The fusion polypeptide of claim 32, wherein a TAT protein functional fragment comprises SEQ ID NO:1 from amino acid 47-57.

34. (Currently Amended) The fusion polypeptide of claim 31, wherein the fusogenic polypeptide is selected from the group consisting of the M2 protein of influenza A viruses; peptide analogs of the influenza virus hemagglutinin; the HEF protein of the influenza C virus; the transmembrane glycoprotein of filoviruses; the transmembrane glycoprotein of the rabies virus; the transmembrane glycoprotein (G) of the vesicular stomatitis virus; the amino-terminal 33 amino acids of the F1 component of the fusion polypeptide of the Sendai virus; the E1 component of the transmembrane glycoprotein of the Semliki forest virus; the gp37 component of the fusion polypeptide of the human respiratory syncytial virus (RSV); the fusion polypeptide of the measles virus; the fusion polypeptide of the Newcastle disease virus; the fusion polypeptide of the visna virus; the p15E component of the fusion polypeptide of murine leukemia virus; the gp21 component of the fusion polypeptide of the HTL virus; and the fusion polypeptide of the simian immunodeficiency virus (SIV), wherein the fusogenic polypeptide causes destabilization of a cell membrane.

35. (Original) The fusion polypeptide of claim 31, wherein the fusogenic polypeptide comprises a sequence selected from SEQ ID NO:2 and SEQ ID NO:3.

36. (Previously Presented) The fusion polypeptide of claim 31, wherein the fusion polypeptide further comprises a heterologous molecule operably linked to the protein transduction domain or the fusogenic domain.